

ABSTRACT

A reaction chamber has a surface to be protected and a longitudinal axis transverse to this surface. For the protection of the surface, a method is used comprising introducing a primary flow of reactants into the chamber in a manner whirling around the longitudinal axis thereof, withdrawing reaction products at an opposite end of the reaction chamber in a flow along the longitudinal axis, and introducing into the chamber a secondary protecting flow directed from a periphery of the surface towards the longitudinal axis. The primary flow and the flow of reaction products approximate a free vortex flow and a pressure created by this vortex flow keeps the secondary flow adjacent the surface to be protected, substantially over its entire area.